

5 What is claimed is:

1. A method for the preparation of an polyaromatic carboxylic acid compound and/or salt thereof comprising reacting an aromatic boronic acid with a halo-substituted, aromatic carboxylic acid compound and/or salt thereof.

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2. The method of claim 1 wherein the aromatic boronic acid is R<sub>2</sub>-substituted wherein R<sub>2</sub> is independently alkyl, alkoxy, alkenyl, cycloalkyl, cycloalkenyl, aralkyl, carbonylalkyl, amino, alkylamino, dialkylamino, hydroxyl, hydroxyalkyl, nitro, cyano, isocyanato, carbamyl, amid, alkylamido, dialkylamido, trifluoromethyl or aryloxy.

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3. The method of claim 2 wherein said reaction is conducted in the presence of a catalyst and a base.

20 4. The method according to claim 3 wherein said catalyst is an organometallic catalyst compound having the formula QM wherein M is an element selected from the group consisting of palladium, platinum, rhodium, and nickel and Q is an organic ligand.

25 5. The method according to claim 4 wherein said organic ligand is selected from the group consisting of triphenylphosphine, tris(2-methoxyphenyl)phosphine, acetate, dibutylamine-C<sub>6</sub>H<sub>6</sub>, and n-propyl-Cl.

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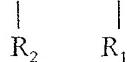
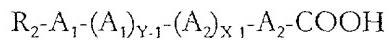
6. The method according to claim 1 wherein said aromatic compound comprises substituted phenyl, biphenyl, triphenyl, naphthyl, phenylnaphthyl, thiophenyl, furyl, pyrrolyl, pyridyl.

7. The method of claim 1 wherein said halo-substituent is iodo or bromo.

8. The method according to claim 4 wherein said organo metallic compound is tetrakis(triphenylphosphine)palladium.

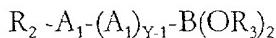
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5           9. A method for the preparation of an R<sub>1</sub>,R<sub>2</sub> substituted polyaromatic compound of  
formula I, and/or a salt thereof,



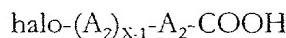
(I)

comprising reacting an aromatic boronic acid of formula II



(II)

with a halo-substituted aromatic compound of formula III, and/or a salt thereof,



(III)

wherein

A<sub>1</sub> and A<sub>2</sub> are each independently phenyl, biphenyl, triphenyl, naphthyl, phenylnaphthyl, pyridyl, pyrrolyl, thienyl, furyl, or pyridyl.

R<sub>1</sub> and R<sub>2</sub> are independently alkyl, alkoxy, alkenyl, cycloalkyl, cycloalkenyl, aralkyl, carbonylalkyl, aryl, amino, alkylamino, dialkylamino, hydroxyl, hydroxyalkyl, nitro, cyano, isocyanato, amido, alkylamido, dialkylamido, trifluoromethyl, or aryloxy;

Y is 1 to about 10;

X is 1 to about 10; and

R<sub>2</sub> is independently hydrogen, lower alkyl or together consists of alkylene to form a cyclic boronic acetal.

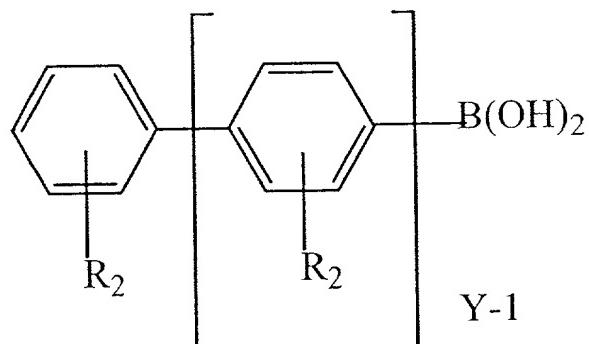
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10. The method of claim 9 where A<sub>1</sub> is a phenyl group and A<sub>2</sub> is a phenyl group.

5        11. The method of claim 3 wherein said base is (1) any alkali metal hydroxide  
carbonate, bicarbonate, phosphate, or alkoxide, or (2) any tertiary organic amine, or (3)  
mixtures of (1) and (2).

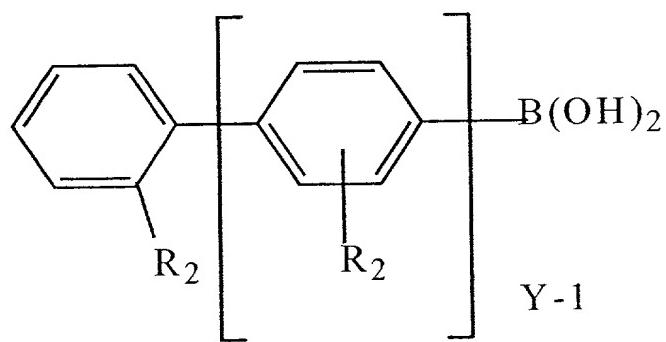
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or para position.

13. The method of claim 9 where in  $(R_2-A_1)_Y-B(OH)_2$  is



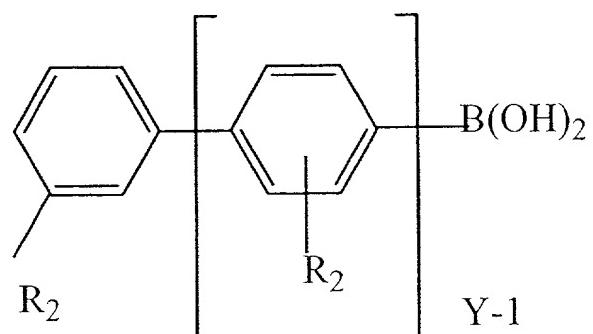
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14. The method of claim 13 wherein  $(R_2-A_1)_Y-B(OH)_2$  is



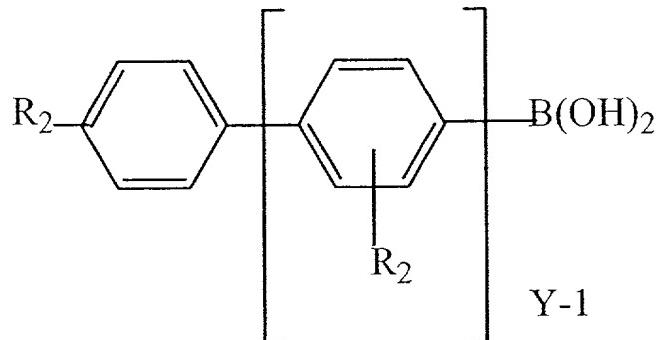
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15. The method of claim 13 wherein  $(R_2-A_1)_Y-B(OH)_2$  is



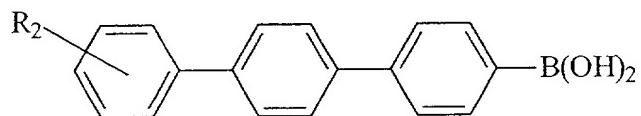
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16. The method of claim 13 wherein (R<sub>2</sub>-A<sub>1</sub>)<sub>Y</sub>-B(OH)<sub>2</sub> is



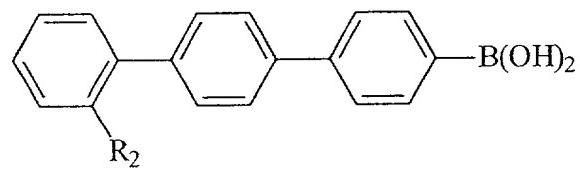
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17. The method of claim 13 wherein (R<sub>2</sub>-A<sub>1</sub>)<sub>Y</sub>-B(OH)<sub>2</sub> is



STATEMENT OF RELATED ART

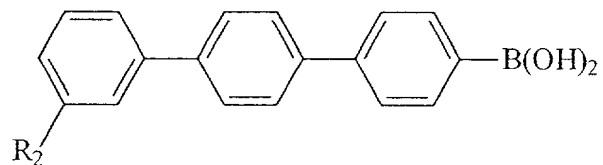
18. The method of claim 14 wherein (R<sub>2</sub>-A<sub>1</sub>)<sub>Y</sub>-B(OH)<sub>2</sub> is



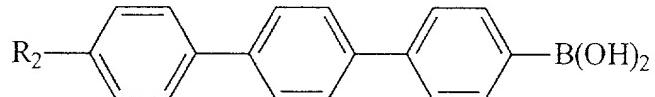
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19. The method of claim 15 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

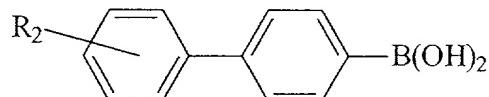


20. The method of claim 16 wherein  $(R_2-A_1)_Y-B(OH)_2$  is



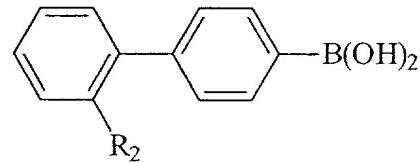
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21. The method of claim 14 wherein  $(R_2-A_1)_Y-B(OH)_2$  is



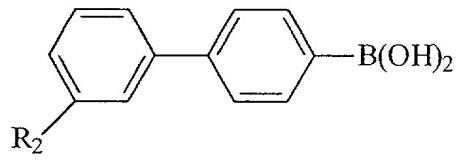
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22. The method of claim 14 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

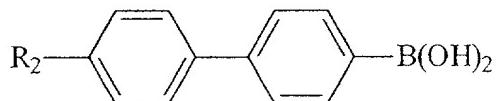


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23. The method of claim 15 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

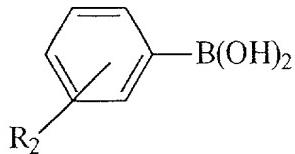


5        24. The method of claim 16 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

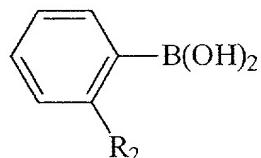


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25. The method of claim 13 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

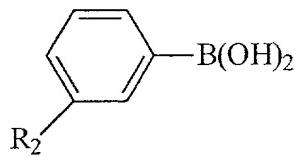


26. The method of claim 14 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

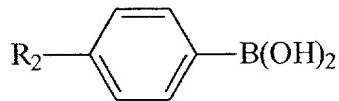


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27. The method of claim 15 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

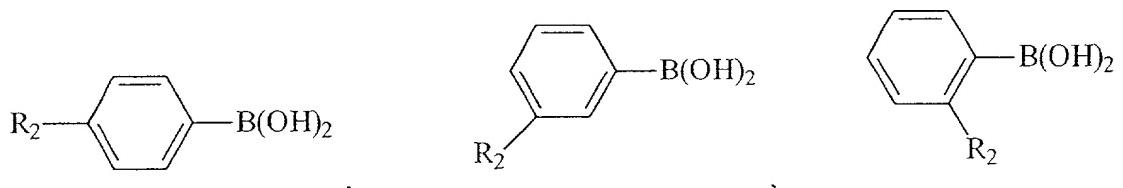


28. The method of claim 16 wherein  $(R_2-A_1)_Y-B(OH)_2$  is

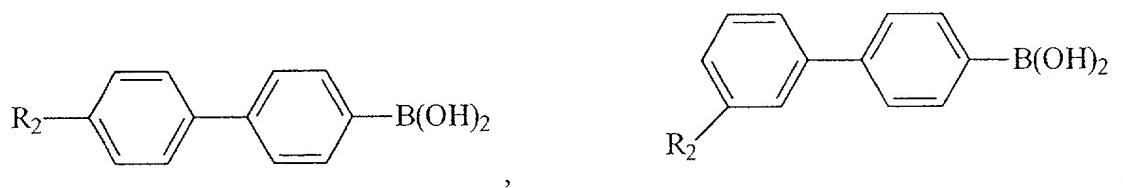


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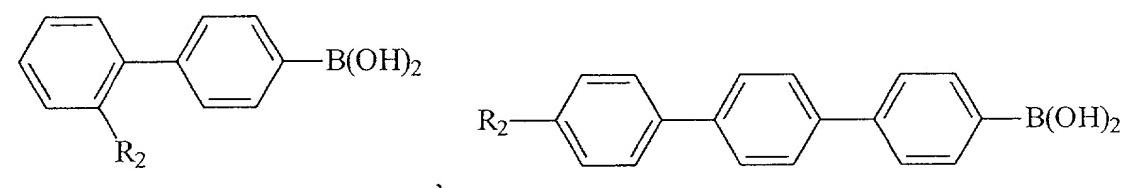
5        29. The method of claim 16 wherein  $R_2-(A_1)_Y-B(OH)_2$  is selected from the group consisting of



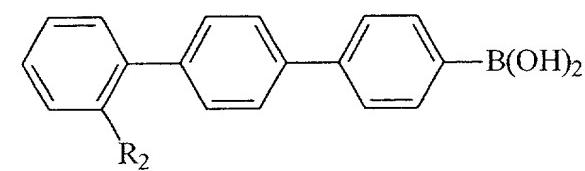
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and



5           30. A method according to claim 24, for the preparation of 4"alkyloxy-1':4'1"-  
terphenyl-4-carboxylic acid comprising the step of reacting 4-alkyloxyphenyl boronic acid  
with 4'-halo-4-biphenyl carboxylic acid.

10          31. The method of claim 30 wherein the preparation further comprises the step of  
treating 1-halo-4-alkyloxybenzene with magnesium to form 4-alkyloxyphenylmagnesium  
halide.

15          32. The method of claim 31 wherein the preparation further comprises the step of  
treating a 4-alkyloxyphenylmagnesium halide with trimethylborate to form 4-alkyloxyphenyl  
boronic acid.

33. The method of claim 32 wherein the alkyl is n-pentyl.